APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/938,804	08/24/2001	Isaac Mayzlin	CARDIFF.053A	2168

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EXAMINER
LE, BRIAN Q

ART UNIT	PAPER NUMBER
2623	

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	**Applicant(s)**
Office Action Summary	09/938,804	MAYZLIN, ISAAC
	Examiner	**Art Unit**
	Brian Q. Le	2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 November 2004*.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☒ Claim(s) *5-14* is/are allowed.
6)☒ Claim(s) *1, 15-21, and 24-28* is/are rejected.
7)☒ Claim(s) *2-4, 22 and 23* is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *24 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.
   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a)☐ All b)☐ Some * c)☐ None of:
   1.☐ Certified copies of the priority documents have been received.
   2.☐ Certified copies of the priority documents have been received in Application No. _____.
   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
   application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date *12/21/2004*.
4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

Election/Restrictions

1.   Applicant's election with traverse of claims 15-18 and 25-28 in the reply filed on

11/15/2004 is acknowledged. The traversal is on the ground(s) that there are overlaps between

the independent claims. This is found persuasive.

The requirement is not deemed proper and is therefore the restriction is withdrawn. All

the claims of the application are now examine together.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3.   Claims 1, 15, 19, and 24-27 are rejected under 35 U.S.C. 102(b) as being anticipated by

Huttenlocher U.S. Patent No. 6,249,604.

Regarding claim 1, Huttenlocher teaches a method for improving optical recognition of

text (column 6, lines 18-20 and 27-30) in an electronic bitmap including non-white pixels and

white pixels (column 9, lines 25-32) through preprocessing of the bitmap (column 7, lines 25-29)

in a computer (column 9, lines 10-20), the computer comprising:

a) receiving the bit map (FIG. 1A, input and column 9, line 45);

b) locating one or more bytes (binary/pixels processing) having no non-white pixels in

the received bitmap, wherein the locating identifies gaps in character strokes (column 15, lines

45-67);

c) inserting bytes (binary/pixels processing) having non-white pixels into a series of bytes

having no non-white pixels (column 15, lines 29-35 and column 16, lines 53-65); and

d) optically recognizing the bitmap for a predefined class of text characters (column 18,

lines 46-57).

For claim 15, Huttenlocher teaches a system (column 9, lines 10-20) to improve optical

recognition of text (column 6, lines 18-20) in an electronic bitmap including non-pixels and

white pixels (column 9, lines 25-32), the system comprising:

A computer environment (column 9, lines 10-20); and

A software program operating the computer environment (column 9, lines 10-20),

comprising:

A receive module configured to receive the bitmap (FIG. 1A, input and column 9,

line 45),

An enhancement module configured to enhance the bitmap obtained from the

receive module, wherein the enhancement module performs a contiguity analysis and selective

insertion of pixels based on the contiguity analysis, wherein the contiguity analysis indentifies

gaps in character strokes (column 15, lines 29-35 and column 16, lines 53-65), and

A recognition module configured to recognize the text in the enhanced bitmap (column

18, lines 46-57).

Referring to claim 19, please refer back to claims 1 and 15 for the teachings and

explanations.

Regarding claim 21, Huttenlocher teaches the method wherein the contiguity analysis

identifies a vertical gap in image data between two image objects, each image object being

located at the same horizontal position on the bitmap as the gap (FIG. 5B)

Regarding claim 24, Huttenlocher teaches the method wherein the bitmap, arranged as

columns and rows, is processed along each column in succession (FIG. 23).

For claim 25, please refer back to claims 1 and 15 for the teachings and explanations.

Also, Huttenlocher teaches a computer-readable medium containing instructions for controlling a

computer environment (commands entered at user interface) (column 9, lines 10-24).

For claim 26, please refer back to claim 25 for the teachings and explanations.

Regarding claims 27, please refer back to claims 1, 15, 19, 25 and 26 for the teachings

and explanations.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

5.   Claims 16-18, 20, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over

the combination of Huttenlocher U.S. Patent No. 6,249,604 and Lopresti U.S. Patent No.

5,748,807 as applied to claim 15 above.

For claim 16, Huttenlocher teaches a process wherein the enhancement module utilizing

binary processing. Huttenlocher does not explicitly teaches the enhancement module performs

one of a byte length process, a bitwise process or a multi-bit process. Lopresti teaches an

improving optical character recognition (column 1, lines 8-13) wherein the enhancement module

(8-bit check-sum) performs one of a byte length process, a bitwise process or a multi-bit process

(8-bit check-sum/byte length process) (column 9, lines 21-40). Modifying Huttenlocher's

method of improving optical recognition of text according to Lopresti would able to multi-

bit/byte length processing to further detect and correct error of character recognition. This would

improve processing and therefore, it would have been obvious to one of the ordinary skill in the

art to modify Huttenlocher according to Lopresti.

Regarding claim 17, Huttenlocher teaches the system wherein the computer environment

is connected to an optical scanner (OCR method and scanner to perform OCR) (column 7, lines

20-22 and column 9, line 15).

Referring to claim 18, Huttenlocher discloses the system wherein the computer

environment is connected to a network and receives the bitmap via the network (the connection

of all apparatuses together) (column 9, lines 10-24).

For claim 20, please refer back to claim 16 for the teachings and explanations.

For claim 28, please refer back to claim 16 for the teachings and explanations.

Allowable Subject Matter

6.   Claims 2-4, and 22-23 are objected to as being dependent upon a rejected base claim, but

would be allowable if rewritten in independent form including all of the limitations of the base

claim and any intervening claims.

7.   Claims 5-14 allowed.

CONCLUSION

8.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

The following patents are cited to further show the state of the art with respect to

improving character optical recognition:

U.S. Pat. No. 6,865,290 to Kohchi, teaches method for recognizing document image by

use of color information.

U.S. Pat. No. 5,930,393 to Ho, teaches method for enhancing degraded document

images.

U.S. Pat. No. 6,021,256 to Ng, teaches resolution enhancement system for digital

images.

U.S. Pat. No. 6,654,495 to Katoh, teaches method for removing ruled lines.

U.S. Pat. No. 5,033,104 to Amano, teaches method for detecting character strings.

9.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Brian Q Le whose telephone number is 571-272-7424. The

examiner can normally be reached on 8:30 A.M - 5:30 P.M.
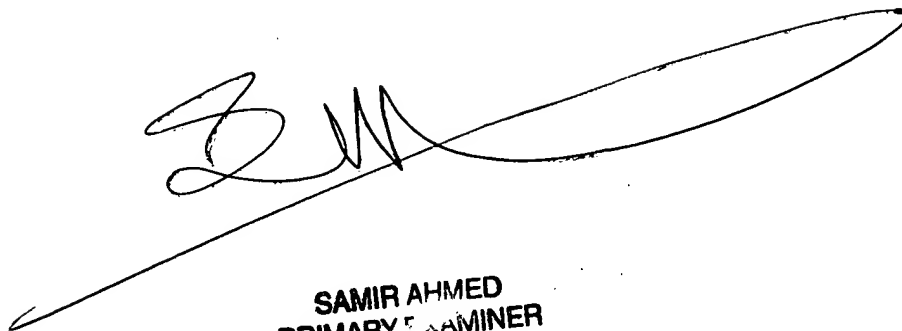
If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Amelia Au can be reached on 571-272-7414. The fax phone numbers for the

organization where this application or proceeding is assigned are 703-872-9306 for regular

communications and 703-872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to TC Customer Service whose telephone number is 703-306-0377.

BL
May 3, 2005

SAMIR AHMED
PRIMARY EXAMINER